

## SEQ ID NO:1

1 ggaattctgg cgcacaacct ataacggccg gccgatggtc atgttcgaaa ggcggtcgag  
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5 181 gtgatccagg ccccgcgccg aaaagcggaa agatgaacaa ttcttaatta ttttcagcct  
241 tttacgccac cgaaacggcc acattccggt ccactttcgt gaccgttggc acggcgcgag  
301 atcctggctg gacacaacaa ggcgcagtag caaccagtcg aaacgggtcca gctttcttcg  
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421 caaacggccg tggcagggtca cgtgaccgat cgtcgctggg gcagccgcaa aacaaaaagg  
10 481 agcatgacaa tgaacagcat tgcgaaaatc tccgtcatcg ccacctctc cgcccttacc  
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601 accgtgcgca ccttcaaggg cgacaatttc cgcgttgtcg atgtcgatac gttgagccgc  
661 cagaaccaga cccgtatgcg agtagacaag gcaacaccgg ggcagcgtgc cgcattgcaa  
721 gccgctgtcg aagccaacag accgctgctc gtttcgctta gggcagcga tgcgaactg  
15 781 gacaacgtcg ccgcggcgaa ccaggcgccc gatggcgagac tgacgatcta cctccgctga  
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901 gacgggcgat ttctttcagc cagacgttat tctgcttg ggagccggaa ttcgccaaac  
961 cgcgcgccgt agcgcgccat cgtgtccacc tcgaaattga cgagatcgcc ggacttgcgt  
1021 tcgccccagg tcgtcacttc gagcgaatgt cggatcagca atacgtcgaa ttcgacgcca  
20 1081 tccaccttgt tcacgggtgag cgacgtcccg tcgagcgcca ccgagccctt gggcgcgatg  
1141 aatttcgca gatgttcggg tgcctgagg cggaagcgca cggtctcccc ctccgcttcg  
1201 acggcaagga tctccgcttt gccgtcgaca tgccgggaga cgatgtgacc cctcagttcg  
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25 1381 gcttccggaa gtgacgtgac ggtcaggcag atgccggcat gcgcgaccga ggcaccaga  
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35 1981 gaaggatagc ccgcgtctcc cgttacgac atcagcggaa cgtcgcgcgc agtcggacc  
2041 aatttcgact cgagcggcag atcgagcgg cggtcgagca cgatccggac gtagagcgc  
2101 tctccagcc ctggcatccg caccgtaagt tccggatcgt cggaatggc cgtaccgata  
2161 ccgacgagga tcgcgtccgt ctccggcacgc aacacctgca cctgggcgcg agagacggca  
2221 ccgaaatcc tcacctgccc ctccgctctc cgtccgatca tgccgtccgc ggaaaccgca  
40 2281 agtttcagag tcacatgcgg gcgtttcttg cgctgacgca tgaggtaggc ctcgagcaca  
2341 cgcccgccct ctcatggag cgtgcctatg tcgacgtcaa tgccggcgcc gcgaagcatc  
2401 accacgcccg ggcgggaac gcgttcacg ggatcgagga tggaaacgac gacacggccg  
2461 acccccgagg cgatcagcgc atctgcgcag ggcggggtct tgccatgatg cgagcagggt  
45 2521 tcgagggcga cataggcggg cgtccctc gccttttcgc ccgcctccgc aagcgctgc  
2581 gtttcgcgt gcggtcgccc gcccggagcg gtcacggctc ggccgacgat cgtgcccttg  
2641 ttgacgatga tgcagccgac cgagggattg gtggaagtca ggccgagatt gcgccttgca  
2701 agccgcagcg ccgccgccat gaaacgttcg tcttcacgtg ccggctcgcc cataccgctt  
2761 gttctccggg ttattcgccc ggatcgcggg caatcttggc gcttatctcg gcgatcacct  
2821 tttcgaaatc ctccgcatgg gagaaatcgc gatagaccga cgcgtagcgc acgaaggcaa  
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3001 cgcgatccac cgggcgcttg cgaagcgcga tctcgaagga gcgcagcagc ttatcccggt  
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3361 gacgtcgag cacctcgacg atcagttcgc cgacctcctt gaactccgc tccttgaagc  
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60 3481 ggtcgaaggg aatgccgttc ttgttgacgg tgacgtagca cggccgagag cagcttcggc

5	3541	acgcttgccg	gtcgcattct	tcttgccgag	gtcgaccagg	catcaggttg	gtgtcggtae
	3601	cgccgagacg	atgtccatcc	agggcggttg	ccttcaaggt	ttcggcaagg	gtgctgggct
	3661	tcttgacgac	ctggggccgca	taatccttga	aggagggctg	cagcgcctcg	ccaagcgcga
	3721	cggccttgcc	ggcaatcacg	tgcatacgcg	ggccaccctg	gagaccgggg	aatacggcgg
	3781	agttgatctt	cttggcgatt	tcttcgtcat	tggtaggat	catgcccggc	cggggggccg
10	3841	cgagggactt	gtcgtgtggtc	gtcgtcgcaa	cgtggcagtg	cgggaacggc	gacggatgct
	3901	ggccaccggc	cacgagaccg	gcgatgtggg	ccatgtcgac	catcagccac	gcgcccacct
	3961	cgtcggcgat	ctcgcggaag	cgcttccagt	cccagatgcg	ggaataggcc	gttccgcccgg
	4021	cgatgatcag	tttcggcttc	tgctcgcgcg	ccattctggc	gacttcgtcc	atgtcgagaa
	4081	ggtgatcgct	ttcggccacg	ccgtaggaaa	cgacgttgaa	ccatttggcc	gacatgttca
	4141	ccgggggacc	atgggctcag	tggccgcccg	aattgaggtc	gaggcccatg	aagggtgtcg
	4201	ccggctgcag	cagcgccagg	aagaccgcct	ggttcatctg	ggagcccg	

SEQ ID NO:2 and SEQ ID NO:3

1547 atggtttacaggcatcatccacgacatcggtacggtcgagaagtc SEQ ID NO:2  
M F T G I I T D I G T V E A K V SEQ ID NO:3  
1502 acacctctcgaggaaggcatcaagcttcgcgtcgccacgaattac  
T P L E E G I K L R V A T N Y  
1457 gaccgcgacacgatcgatctgggtgcctcggtcgcgcatgccggc  
D P Q T I D L G A S V A H A G  
20 1412 atctgcctgaccgtcacgtcacttccggaagccggcagcaacgaa  
I C L T V T S L P E A G S N E  
1367 cgttggttcgaggtcgagggatgggaggaagcgctgaggctgacg  
R W F E V E A W E E A L R L T  
1322 acgatcgccgactggcggtgagggcacgcgcatcaatcttgagcgc  
T I A D W R E G T R I N L E R  
25 1277 tcgctgaagatcggcgacgaactgggcggtcacatcgtctccggc  
S L K I G D E L G G H I V S G  
1232 catgtcgacggcgaagcgagatccttgccgtcgaagcggagggg  
H V D G G K A E I L A V E A E G  
30 1187 gaagccgtgcgcttcgcctcagggcaccgcaacatctcgcgaaa  
E A V R F R L R A P E H L A K  
1142 ttcatcgcgcccaagggctcggtggcgctcgacgggacgtcgctc  
F I A P K G S V A L D G T S L  
1097 accgtgaacaaggtggatggcgctcgaattcgacgtattgctgac  
T V N K V D G V E F D V L L I  
35 1052 cgacattcgctcgaagtgcgacctggggcgcaacgcaagtcgggc  
R H S L E V T T W G E R K S G  
1007 gatctcgtcaatttcgaggtggacacgatggcgcgctacgccgcg  
D L V N F E V D T M A R Y A A  
40 962 cggttggcggaattcccggtcccaagcaggaataa 927  
R L A E F P A P K Q E \*

SEQ ID NO:4 and SEQ ID NO:5

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45		M G E P A R E D E R F M A A A	SEQ ID NO:5
	2708	ctgccggttgcaaggcgcaatctcggcctgacttccaccaatccc	
		L R L A R R N L G L T S T N P	
	2663	tccgttcgggtgcatcatcgtcaacaagggcacgatcgtcggccga	
50		S V G C I I V N K G T I V G R	
	2618	gccgtgaccgctccggggcgggcgaccgcacgcggaaacgcaggcg	
		A V T A P G G R P H A E T Q A	
	2573	cttgccgaggcgggcgaaaaggcgaggggagcgaccgcctatgtc	
		L A E A G E K A R G A T A Y V	
55	2528	gccctcgaaccctgctcgcacatcatggcaagacccccgcctgcgca	
		A L E P C S H H G K T P P C A	
	2483	gatgcgctgatccgcctcgggggtcggccgtgctcgtcttccatc	
		D A L I A S G V G R V V S I	

SEQ ID NO:7

D V A F V R Y A S V Y R D F S  
 2839 catgaggatggtcgaaaaggatcgccgagataagcgccaag  
 H A E D F E K V I A E I S A K  
 2794 attgcccgcgatccggggaataa 2771  
 I A R D P G E \*

SEQ ID NO:8 and SEQ ID NO:9

4555 atgctttcacagaccaacgacgctttcttcacccgctctctcgcc SEQ ID NO:8  
 M L S Q T N D A F F T R S L A SEQ ID NO:9  
 4510 gacagcgatccggaaatcttcggtgagatcgagaaggagctgggc  
 D S D P E I F G A I E K E L G  
 4465 cgccagcgccatgagatcgagctgacgctcccgagaacatcggt  
 R Q R H E I E L I A S E N I V  
 4420 tcacggggcggtgctcgaggcgagggtcgatcatgaccaacaaa  
 S R A V L E A Q G S I M T N K  
 4375 tacgcccgggttacccgggcaagcgctattacggcggtgcca  
 Y A E G Y P G K R Y Y G G C Q  
 4330 tatgtcgatatcgccgaggcactcgcgatcgagcgccgaagaag  
 Y V D I A E A L A I E R A K K  
 4285 ctcttcggcgctcaacttcgcaacgtgcaaccgaattcggtctcc  
 L F G V N F A N V Q P N S G S  
 4240 cagatgaaccaggcggtcttcctggcgctgctgcagccggcgac  
 Q M N Q A V F L A L L Q P G D  
 4195 accttcatgggctcgacctcaattccggcgccacctgacctat  
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 4150 ggggtccccggtgaacatgtcgggcaaatgggtcaacgtcggttcc  
 G S P V N M S G K W F N V V S  
 4105 tacggcggtgagcgaagacgatcaccttctcgacatggacgaagtc  
 Y G V R E D D H L L D M D E V  
 4060 gccaggaaggcgcgagcagaagccgaaactgatcatcgccggc  
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 4015 ggaacggcctattcccgcatctgggactggaagcgcttccgcgag  
 G T A Y S R I W D W K R F R E  
 3970 atcgccgacgaggtggcgcggtggtgatggtcgacatggccac  
 I A D E V G A W L M V D M A H  
 3925 atcgccggtctcggtggccggtggccagcatccgtcgccgttcccg  
 I A G L V A G G Q H P S P F P  
 3880 cactgccacgttgcgacgacgaccacgcacaagtccctgcgcggc  
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 3835 ccccgcgcgcatgatcctcaccaatgacgaggaatcgccaag  
 P R G G M I L T N D E E I A K  
 3790 aagatcaactccgcccgtattcccggtctccagggtggcgcgctg  
 K I N S A V F P G L Q G G P L  
 3745 atgcacgtgattgccgccaaggccgtcgcgcttggcgaggcgctg  
 M H V I A A K A V A L G E A L  
 3700 cagccctccttcaaggattatgcggcccagggtcgtaagaacgcc  
 Q P S F K D Y A A Q V V K N A  
 3655 cgcacccttgccgaaaccttgaaggccaacggcctggatggacat  
 R T L A E T L K A N G L D G H  
 3610 cgtctcgggcggtaccgacacccacctgatgcctggctgacctgcg  
 R L G G T D T H L M P G R P A  
 3565 caagaagaatgcgaccggcaagcggtgccgaagctgctctcggccg  
 Q E E C D R Q A C R S C S R P  
 3520 tgctacgtcacctgcaacaagaacggcattcccttcgaccccgaa  
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 3475 aagcccttcgtcacctccggcggtgcgcttcgggtgcaccggcggt  
 K P F V T S G V R L G A P A G  
 3430 acgagcgcggttcaaggaggcgaggttcaaggaggctcggcgaa  
 T T R G F K E A E F K E V G E  
 3385 ctgatcgctcgaggtgctcgacggtctcaaggccgccaattccgac  
 L I V E V L D G L K A A N S D  
 3340 gagggcaatgccgctgtcgagggtggcggtgcgagagaaggatgac  
 E G N A A V E A G V R E K V I  
 3295 aagctcaccgaccgcttcccgatgtacggctatatgtga 3257  
 K L T D R F P M Y G Y M \*

## SEQ ID NO:10 and SEQ ID NO:11

106 atgtcctacgaccagaagcgcgctcgtaagccattcgcgcccttc SEQ ID NO:10  
M S Y D Q K R V V E A I R A F SEQ ID NO:11  
5 151 gaagcaggcgagatcgctcgctcaccgacgacggcgccgtgag  
E A G E I V V V T D D G G R E  
196 aacgagggcgacctgatcgctcgagcgggtgcaactgcacgcctgag  
N E G D L I V A A V H C T P E  
241 aagatggcggttcacgtcgccatacctccggcatcgctctgcacg  
K M A F I V R H T S G I V C T  
10 286 ccgatgccgcgcgaggaggcaaacgcctcaacctgaatgcgatg  
P M P R E E A K R L N L N A M  
331 gttgccgagaaacgactccgcccacaccacgccttcacgggtgctg  
V A E N D S A H T T A F T V S  
376 gtcgatttcaagcacgggaccacgaccggcatttccgcagacgac  
15 V D F K H G T T T G I S A D D  
421 cgaacgcttacggtcagaaaccttgccaatcgaatgtcggggccg  
R T L T V R N L A N P N V G P  
466 acggatttcgtccggcgccacatattccctctcgtggcgcgcg  
T D F V R P G H I F P L V A R  
20 511 gagggcgcggtgctgatgcgctccggccataccgaggccgcccgtc  
E G G V L M R S G H T E A A V  
556 gatctctgcaggctcgcgagcctgcgcgcgatcggcgctcatctgc  
D L C R L A S L P P I G V I C  
601 gaactcgtcaacgatgacggcaccgtcatgcgtggggcgcaggctc  
25 E L V N D D G T V M R G P Q V  
646 gaagccttcgcggaaacgcacggcctgaagcagggtctcgtggcc  
E A F A E T H G L K Q V S V A  
691 gatctcattgcctatcgccagcgcaaggagaccttgatcgagcag  
D L I A Y R Q R K E T L I E Q  
30 736 ggccattccttcgaaatggacacgccctacggcaaggccaagggc  
G H S F E M D T P Y G K A K G  
781 cacacctattcgctgccctgggatacgatgcagcacctggcgctg  
H T Y S L P W D T M Q H L A V  
826 gttttcgggagacattcgcgacggcgctcgacattcccgtgctctc  
35 V F G D I R D G V D I P V R L  
871 cacctcgaaaatgtcggagccgacgtcttcggccgcgcccgccag  
H L E N V G A D V F G R G R Q  
916 atcgacgagatcatgaagcgcatcgccgcccaggggaggggcgctc  
I D E I M K R I A A E G R G V  
40 961 atcgtctatctgcgggagggtccgtgggggtcggaatttcgcag  
I V Y L R E G S V G V G I S Q  
1006 acagcgcgaaagggcaagcacgagagggagggtccactcggaggca  
T A R K G K H E R E V H S E A  
1051 caggagcgcgaaagcgagtggctggagatcggcctcggcgcgcac  
45 Q E R E S E W L E I G L G A H  
1096 atcctgaaagacctcggcacacctccattcgcttctttcgctcg  
I L K D L G I T S I R L L S S  
1141 cgcgagcggcattatgtcggcctggagggttcggcatcaagatc  
R E R H Y V G L E G F G I K I  
50 1186 gccgctaccgagattctgtcaatccggaagagcccaaatcaaag  
A A T E I L S I R K S P K S K  
1231 ccgctgaccccgacgcggctccctcgcttgaagcaagctgccgt  
P R H P T R L P R L E A S C R  
1276 tacggcagggcgctcgtag 1293  
55 Y G R A S \*

## SEQ ID NO:12 and SEQ ID NO:13

379 atggcgaaagatcaagcccgtccacatcctgattgtggaagcgcg SEQ ID NO:12

*ribBAR*

5'-AAGACGAGCTTCTCAAGACCT-3'

SEQ ID NO:22

*ribHF*

5 5'-ATGCCGATATCCTTGAGACCG-3'

SEQ ID NO:23

*ribHR*

5'-GTCTGCCCCGGAGATAGGTGTC-3'

10